

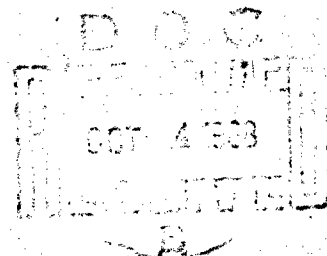
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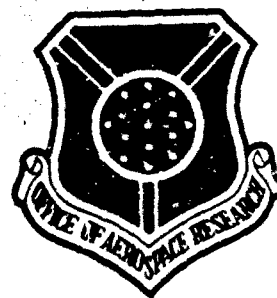
**HIGHLIGHTS FROM
THE AIR FORCE SCIENTIFIC AND TECHNICAL INFORMATION PROGRAM
Presentation to AFSC Technical Management Council**

Kirtland AFB, NMex



BY COLONEL CURRIE S. DOWNIE

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25 July 1968
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by

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INTRODUCTION

At the last Tech Management Council meeting there were some questions which arose about the Air Force Scientific and Technical Information Program; questions that were unanswered at that time. Colonel Luke of OAR indicated that he could arrange a briefing on the Air Force Scientific and Technical Information Program for the next meeting of the Tech Management Council. After the meeting he talked to me and I have prepared this briefing for you accordingly.

I would like to give you a very brief outline of what I will talk about today. First, I'll discuss the objectives of the Air Force Scientific and Technical Information Program. Then the Air Force Focal Point responsibility, which has been assigned to OAR by Hq USAF will be discussed. Item 1, under the Air Force responsibility (and these are not necessarily listed in the order of priority), is to represent the Air Force at the DDR&E Focal Point Meetings, and attend the DDC Liaison Meetings; secondly, to improve the availability and dissemination of scientific and technical information; thirdly, to review and revise Air Force regulations as needed; and fourth, maintain an inventory of Air Force Scientific and Technical Information activities and facilities.

The next topic of discussion will be a brief rundown on some of the studies we are conducting, studies to improve the dissemination of scientific and technical information and to make this information more readily available.

Thirdly, I will briefly recount some COSATI efforts in which we are presently involved. (COSATI is an acronym for the Committee On Scientific And Technical Information, under the Federal Council for Science and Technology.)

Fourth, I will talk about DDC and some of their new plans and ideas, particularly their plans for an on-line remote-access system, and also their plans for primary distribution of technical reports.

Finally, we'll get to the discussion of user charges, a subject in which you are probably all especially interested.

These are the topics I expect to cover today. If there are other subjects related to scientific and technical information that you are interested in, we can discuss them afterwards, if there is still time.

I am not attempting today to cover the entire Scientific and Technical Information Program of the Air Force. Instead the view of the program as it appears from the USAF standpoint will be presented, as well as some of the activities of the OAR Office of Scientific and Technical Information. Not included are the AFSC STLO (Scientific and Technical Liaison Offices) activity, the information analysis centers, etc. Also overlooked are the research activities in the area of information sciences, particularly by RADC, AFOSR and AFCL.

Before we get into the briefing itself, I would like to comment on the discussion yesterday on the Survivability/Vulnerability Analysis presentation by Mr. Kamm. After this briefing Dr. John Keto, ASD, asked whether there was available in one easy handy reference, all the information pertaining to radiation and EMP vulnerability and survivability for aircraft and other weapons systems. The answer was yes, that such information is actually available, but from the discussion it became obvious that the necessary information was not getting into the hands of those people who needed it, prior to design of new weapons systems. We are always, it seems, conducting a study after the fact, after the weapons systems have been produced, often resulting in expensive modifications in the existing weapons systems. This is an excellent example of one of the problems involved in scientific and technical information - getting the information to the user in a timely fashion while it will do some good!

I. Objectives of the Air Force Scientific and Technical Information Program

The objective of the Air Force Scientific and Technical Information Program, briefly stated, is to improve the acquisition, dissemination, and exchange of scientific and technical information so that: (1) the information needs of scientists, engineers, and managers are fulfilled; (2) RDT&E costs are reduced; (3) RDT&E cycle time is reduced, and (4) R&D management is improved.

II. Air Force Focal Point Responsibility

Mr. Walter Christensen, who is Acting Director of Technical Information for DoD (DDR&E), holds what he calls Focal Point Meetings about every two weeks in his office in the Pentagon. Army, Navy and

Air Force, ARPA, DASA, NSA, DSA, and DDC (Defense Documentation Center) are all represented at these meetings. The purpose of the meetings is primarily for exchange of information and ideas among the people involved. The official Air Force representative is from OAR, but Colonel Bomba of DOL attends for AFSC. OAR's function, as explained in a Hq USAF letter¹ assigning the Air Force Focal Point function to OAR is to "attend Focal Point Meetings and maintain communication with ODDR&E to represent Air Force interests, positions and viewpoints."

It is also Air Force responsibility to insure that information from the monthly DDC Liaison Meeting gets the proper distribution. AFSC provides a man to attend this meeting, Lt Col Fenn, who is one of Colonel Bomba's people. OAR usually sends a man to this meeting also.

OAR's second responsibility for the Air Force Scientific and Technical Information Program is to improve the dissemination and availability of this information to Air Force scientists and engineers, and to the scientific and technical communities in general. In this respect, we assist and cooperate with the technical libraries in every way possible since they are an essential and integral part of the program. This is how OAR got involved in the SEP/IR/document (former Tech Documents Cen) discussion at Wright-Patterson Air Force Base, which led to a briefing of General Pinson and General Gilbert last October. This meeting was followed by a study prepared by representatives of the four using

1. Hq USAF (AFRDD) letter dated 7 July 1967 to OAR and AFSC, Subj: Scientific and Technical Information

commands at Wright-Patterson AFB: AFSC, OAR, AFLC, and AU.² We feel that there are several real problems connected with technical libraries throughout the Air Force, these being primarily in the funding area and in their organization and reporting to the Personnel Center at Randolph AFB. The technical libraries are considered, organizationally and funding-wise, as part of the base library system of the Air Force, and as such they are regarded as morale libraries when it comes time to cut the funds. In other words, when the Air Force feels pressed for funds, the first place they turn to is the athletic programs (purchase of basketballs, baseballs, etc.) and to other morale building programs of which the libraries are a portion, with no differentiation made between morale or base libraries, on the one hand, and technical libraries on the other hand. We in OAR, however, feel that the technical libraries, and scientific and technical information in general, are as important to the RDT&E process and program as are research facilities, laboratory equipment, qualified and experienced personnel, and funds for contract R&D. If the Tech Management Council wishes to make a useful and interesting study, they could concern themselves with Air Force technical libraries across the board, and more specifically with tech libraries at Wright-Patterson AFB, where the previously mentioned study indicates there are about 20 different libraries, document centers, etc., operating.

At lunch today I was talking with Dr. John Keto of the Aeronautical Systems Division (ASD) at Wright-Patterson AFB. He indicated

2. Investigation into Technical Information Activities at Wright-Patterson AFB, Ohio, 1 Dec 1967. Prepared by Joint AFSC, AFLC, AU (AFIT), and OAR (AKL) Ad Hoc Panel.

a real concern with problems of technical information availability and flow to the user at W-PAFB and was specifically concerned about the technical library situation there. Several studies and proposals have already been completed on this subject: the 1965 study by Philco,³ the 1967 study by the four commands already mentioned, and the ASD-submitted MCP item for a new technical library for W-PAFB.

For an indication of the activities involved in a competent, service-oriented, technical information operation, see report on the AFAPL STINFO Program.⁴

The third function of OAR, in its Air Force technical information responsibilities, is to review and revise Air Force regulations as required. Our responsibility is to prepare draft copies of the proposed regulations in cooperation with AFSC which are then forwarded to Colonel Robert Hemm of the Air Staff, who will then coordinate them with the necessary Air Staff personnel.

We are currently working closely with Colonel Bomba and his people at AFSC to revise Air Force regulations. At present, there is only one AF regulation, AFR 80-29, which deals directly with the Air Force Scientific and Technical Information Program. This single Air Force regulation attempts to implement at least six different DoD instructions: one on the functions of the Scientific and Technical Information Program (DoDI 5129.43), one on the Defense

3. Study and Analysis of Requirements for a Research and Technology Center at Area "B" Wright-Patterson AFB, Philco. Deputy for Civil Engineering, ASD, June 1965.
4. Establishment of a STINFO Program for the Air Force Aero Propulsion Laboratory, by J. M. Tierney, A. T. Dodson, and A. L. Lueck, University of Dayton Research Institute, August 1967. AD 658 849

Documentation Center (DDC) (DoDI 5100.18), access to scientific and technical information (DoDI 5100.21), standards for documentation (DoDI 3200.8), information analysis centers (DoDI 5100.45), and DoD technical information (DoDI 5100.36). OAR and AFSC are working together to prepare five separate Air Force regs to replace AFR 80-19. We feel that the following regulations are required to adequately cover the program: (1) Scientific and Technical Information Program, Organizations and Functions; (2) Symposia and Technical Meetings; (3) Information Analysis Centers; (4) Technical Documentation, and (5) Air Force Use of the Defense Documentation Center.

Air Force Regulation 310-2, implementing DoD Instruction 5200.20, on distribution statements, also is under revision. As you know, under the present system there are five different distribution statements possible: (1) Unlimited, (2) No Foreign, (3) U. S. Government Only, (4) DoD Only, and (5) Originating Agency Only. Under the new program, envisioned by Mr. Christensen, there would be only 3 distribution statements: (1) Unlimited, (2) U. S. Government Only, and (3) DoD Only. However, DoD has not yet revised its instruction so we are waiting on DDR&E. And, as we understand it, DDR&E has had trouble getting coordination on the new proposal for distribution statements, so it may be some time before any real change is made. As you probably know, the "No Foreign" distribution statement has been causing quite a bit of trouble. Mr. Christensen's proposed solution to this problem is to eliminate the "No Foreign" distribution statement and classify the report as security information if it is not to

be distributed to foreign nationals. Also, statement #5 (originating agency only) has been troublesome in that higher headquarters must ask permission of a unit to obtain copies of reports limited in this way.

One of our other Air Force responsibilities is to maintain an inventory of Air Force scientific and technical information activities and facilities and provide this information as required. We are presently building up such a data base on the time-shared computer (see pages 17 - 19). There is an annual National Science Foundation inventory required, and every second or third year the President's Scientific Advisor also conducts a survey. The last survey was conducted by COSATI about 3 months ago with the following results:

<u>Table 1</u>			
<u>Funding of Information Activities in DoD - FY68</u> (millions of dollars)			
	<u>AF</u>	<u>Army</u>	<u>Navy</u>
Publication & Distribution	\$18.7	\$13.5	\$30.4
Documentation, reference, and information services	14.2	47.1	6.0
Symposia & audio-visual media	3.8	12.7	4.1
R&D in information sciences	<u>9.7</u>	<u>1.5</u>	<u>1.3</u>
	\$46.4	\$74.8	\$61.8

III. Scientific and Technical Information Studies

Next I want to briefly mention four different studies that we are involved in at OAR, studies to improve the dissemination of scientific and technical information. The first study is called

SCAN, Selected Current Aerospace Notices. SCAN is basically a current awareness service or a means of selectively disseminating information about articles and reports that are available. The service is provided to the Air Force by NASA. SCAN has a large data base, drawing from both International Aerospace Abstracts, which is published by the American Institute of Aeronautics and Astronautics, and the NASA STAR (Scientific and Technical Aerospace Reports). There are a total of 188 different categories of information, and people can select those categories in which they are interested. The information provided on the new reports which are available, both tech reports and journal articles, is author, title, keywords, where it was published, and where a copy can be obtained. Notices of each category of information are bulk mailed to a central sorting point in each participating laboratory. The notices are then sorted out, and each individual user is provided the categories in which he had indicated an interest.

OAR has two laboratories participating: the Aerospace Research Labs at W-PAFB and the Air Force Cambridge Research Labs at Hanscom Field. AFSC has three organizations participating: the Air Force Weapons Lab at Kirtland, the Rome Air Development Center, and the Air Force Materials Lab at W-PAFB. The sorting center at Materials Lab is also providing other laboratories at Wright-Patterson with this information. For example, they service several people at AFL. There are a total of about 230 Air Force personnel receiving the SCAN service.

SCAN is an extremely low-cost-method of keeping scientists and engineers aware of the new literature available in their selected fields of interest.

2. In its test phase CAST (Clearinghouse Announcements in Science and Technology) is a cooperative effort, run by the Clearinghouse for Federal Scientific and Technical Information, with the cost underwritten by OAR. It is also a means of providing current awareness of the latest technical reports available. It uses a large data base, the same as that in the publication U. S. Government Research and Development Reports (USGRDR), which presumably contains all unclassified government scientific and technical reports (including all DoD unclassified-unlimited reports). The data base is divided into about 65 categories. About 1000 Air Force personnel were serviced during the 10-month test period, September 1967 thru June 1968. The test is now completed and an analysis is being run on the results. A final report will be prepared as soon as possible. Also participating in this test were about 50 scientists from the National Bureau of Standards and about 300 industrial users in the state of Wisconsin, as shown below:

<u>Table 2</u>			
<u>Participants in CAST</u>			
<u>Air Force</u>	AFSC	694	
	OAR	108	
	Other (AU, ACIC,		
	AFA, etc.)	187	Total AF 989
National Bureau of Standards			47
Wisconsin (State Technical Service)			<u>302</u>
Total			1338

The breakdown of the Air Force Systems Command participants in CAST is shown below:

<u>Table 3</u>			
<u>AFSC Participants in CAST</u>			
AFFDL	64	AFATL	53
AFAL	44	SAMSO	79
AFAPL	31	AFRPL	43
AFML	42	6595th ATW	6
ASD	131	AFFTC	8
AMRL	19	AFWL	54
RADC	84	AFMDC	11
APGC	5	AEDC	10
6555th ATW	10		
Total 694			

The innovations in and advantages of the CAST Program are many:

(1) It provides selective dissemination according to the users own wants and needs. He orders only those categories that specifically interest him. Some of those people, by the way, that ordered too many categories were sorry that they did so because they weren't able to keep up with the information that they were getting. (2) It is delivered to the individual's "IN" box on his desk. He does not have to go to the Library or any other central point to obtain his information. (3) The information contains the full abstracts, instead of just keywords as with SCAN. (The users agree almost unanimously that the full abstracts are much more valuable and contain much more information than the keywords.) (4) Ease of ordering (ordering is so simple that anyone can do it in about 10 seconds). A form was provided which required only that the individual fill in the required document number, indicate his choice of hard-copy or microfiche, and

drop it in the mail. (5) CAST is an extremely cost-effective method of maintaining current awareness.

The advantages, of course, are the savings in time that the scientist or engineer must devote to literature search, and that the system gives much more comprehensive coverage than our Air Force users ordinarily experience. We made a survey of the users, both before the experiment started and after the experiment was more than halfway completed. Over 80% completed the survey questionnaire, and over 98% of the respondents indicated that this method better fulfilled their needs. The average time savings, that is, savings in search time, resulted in estimated dollar savings equivalent to \$150-\$200 per year per user. Of the Air Force group before the experiment started, the following numbers of individuals read the documents indicated:

	<u>DDC TAB</u>	<u>USGRDR</u>
Read regularly	275	34
Read occasionally	344	197
Never read	301	727

About halfway through the experiment, the following numbers of Air Force users indicated they read the subjournal (CAST) regularly Yes or No, and passed the subjournal on to other users Yes or No:

	<u>Subjournal (CAST)</u>	
	<u>Yes</u>	<u>No</u>
Read regularly	686	16
Pass on to others	479	219

In answer to the query - the subjournal (CAST) is useful because -
the following response was received:

	<u>No. of respondents</u>
Saves search time	435
See more report announcements	544
Have access to more than DDC documents	347
Receive reports faster	297

Comments included the following reasons why the participants
liked the subjournal:

	<u>No. of respondents</u>
Convenience	189
Format	182
Good source of report literature	168
Ease of ordering	130
Saves time	98
Scope of subject categories	43
Direct mailing to user	34

A total of 26 people suggested that better abstracts would
improve the service.

This experiment was such a success that the Clearinghouse has
adopted the methodology and is making the source available to
everyone on a subscription basis, effective 1 July 1968.

3. Technical Barriers Documentation Study. As you know,
there are technical barriers to progress in the Air Force. AFSC
has its Technical Objectives Documents and OAR its Research Objectives
for summarizing areas of interest and presumably problem areas. I
know more about the OAR Research Objectives, so will confine my
remarks to it. This document, as those of you know who are familiar
with it, is extremely broad and general in its coverage. In Physics,
for example, there is almost nothing in the whole discipline that is

not included. It offers almost nothing specific to those experts who wish to do work in the field, research work on Air Force problems. What these people need is a concise statement of a specific problem area of direct interest to the Air Force.

An example of a problem resume is given on the next page (Figure 1). Those of you who are familiar with the 1498 form (the work unit write-up) will recognize this as a variation of that form. It is also somewhat similar to the 1473 which appears as the last page in each technical report that is forwarded to DDC. The important data elements are: the title, the abstract (which includes objective and background), date of preparation, the source document if any, the individual scientists who can be contacted for more information, keywords for later retrieval through a mechanized search system, and scientific and technical area involved.

The project seeks to gain better knowledge about the man-to-man information transfer mechanisms and experimentally exploit these mechanisms to promote better coupling methods and procedures. Specifically, the project is to test the feasibility of an idea that one can identify technological obstacles in terms which can be meaningful to scientists. By doing this we would offer them new opportunities for their talents and stimulate their interest in those areas which are most critical to the future missions of the Air Force.

The essential aspects of the project involve a set of hypotheses which postulate that much of the Air Force technological progress

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PROBLEM RESUME

1. Problem Title MHD turbulent shear and heat transfer losses				Checked Date:
2. Abstract <p>Objective: To develop means to predict MHD turbulent shear and heat transfer losses in a regeneratively-cooled, linear-Hall generator to within 10% of actual losses.</p> <p>Background: Means to predict MHD turbulent shear and heat transfer losses are needed in the design and development of a regeneratively cooled, linear-Hall MHD generator flow channel. The desired MHD power generator is to be light and compact enough to be pod mounted on a light attack aircraft. Successful development will make it possible to provide one megawatt or more of power for such airborne applications as powering a ground illumination arc light. Losses in MHD systems have in the past been estimated on the basis of ordinary turbulent boundary layer theory. This approach is satisfactory for large-scale units but may result in errors of 50-100% for units of the size required for airborne applications.</p>				
3. Date of Report Preparation: 7 02 68	4. Date of Last Verification:	5. Designator: 3.2.7	6. Association Number:	
7. Source Document		8. Source Document AD Number:		
N/A				
9. For Additional Information Contact Kenneth R. Cramer Aerospace Research Engineer Thermodynamics Research Laboratory (ARL) Aerospace Research Laboratories Wright-Patterson AFB, Ohio 45433 Tel: (513) 255892		10. Key Words MHD; boundary layer turbulence; heat transfer losses; linear-Hall generator		
11. Scientific or Technical Area 04500 Conversion techniques; 006400 Fluid mechanics; 01300 Plasma physics				

(2nd Prototype Form, 6-16-60)

UNCLASSIFIED

SECURITY CLASSIFICATION

results from the interplay and accommodation of various scientific, technological and operational objectives. It is further assumed that the understanding and resolution of the conflicting objectives can be best obtained through person-to-person confrontations, e.g., ad hoc study teams which consist of the spokesmen for the three groups -- the scientific disciplines, the engineers with their technological objectives, and the potential customers for new technologies. Finally it is postulated that the effort of identifying and documenting technological knowledge barriers is a convenient vehicle which would permit the productive use of people's time and their intellectual energies, as well as provide a record for those who were not able to participate directly in such confrontations.

So far several lessons have been learned, lessons that encourage us to continue with the project. One is that the scientists and technical people who participated in our first experiment have shown real enthusiasm for this mode of coupling. This we consider vital to the success of any coupling exercise. Another lesson we have learned is that the starting point for such studies could be at any point of the R&D spectrum, i.e., one could start from either an operational requirement, from a technological objective, or from an area of science. Thirdly, the study to date has shown that it is indeed possible to build an "audit trail" between science, technologies and application. Moreover, we have learned that technological problems can be stated in terms of the knowledge required in order to assess the relevance of our research to Air Force technology.

On the other hand it is still too early to tell the utility of such an effort for both OAR and for AFSC. There is more to be learned before concrete proposals for coupling methodologies can be made. Our progress to date and plans for the future are included in Table 4 below:

Table 4

Tech Barriers Documentation Project

PROGRESS AND PLANS

Accomplishments

- Problem Research Procedures Developed
- Preliminary Problem Analyst's Guide Drafted
- Problem Resume Form Developed and Tested
- Six Dozen Problems Documented
- Limited Scale Tests in Two Areas

Plans

- 2nd Generation Problem Analyst's Guide
- Test and Refine Problem Procedures Through Use in Joint OAR-DOL Technological Building Block Study
- Test on Other Problems as Available
- Conduct User-Product Coupling Experiments

A complete review of this project was presented to the 21st Military Operations Research Symposium in June 1968. Copy is available in report form from the Clearinghouse.⁵

5. Technological Barrier Documentation Project, Col C. S. Downie and Col E. P. Luke, Office of Aerospace Research, presented to the 21st Military Operations Research Symposium, 12 June 1968, United States Air Force Academy, Colorado. AD 674 050

4. Time-Shared Computer Study. This is a study which should lead to improved R&D management information as well as improved scientific and technical information by means of a remote access time-shared computer. At the last meeting of the Tech Management Council I believe that Lt Col Shuping of Hq AFSC briefed you on the AFSC Management Center and his remote use of the System Development Corporation (SDC) time-shared computer system. Hq OAR began an experiment using this same computer system in March of this year.

The objective of our experiment is to determine the potential of this technology (remote access, time-shared computer technology) to OAR in terms of improving the content, timeliness, and transfer-display characteristics of OAR information systems.

In order to reach this objective, emphasis is being placed on:

(1) Remote direct access to select data extracted from our existing computer-based Management And Scientific Information System (MASIS).

(2) An environment in which individual managers can prepare their own computer program, or more importantly, can automate and manipulate their own management data.

(3) The use of secretaries to retrieve and update data for their bosses. (And we have found that the secretaries can really run this system better than their bosses in most cases, primarily because they can type.)

(4) The possibility of sharing in networking the relevant R&D data stored in a common system by OAR and various other AF RDT&E activities (such as Hq AFSC data bases).

(5) As the USAF STINFO Focal Point, building up an inventory of STINFO activities and resources, a requirement which has never been adequately fulfilled.

At present, 6 members of the Hq OAR staff and 2 members of the AFOSR staff are using the remote terminal. Several have established their own small experimental data bases, and one has been doing computer programming to support a division project. Three of these staff personnel have their secretaries involved, and these secretaries have shown they can easily learn to use the system.

Secondly, an AFOSR proposal data file for FY68 has been introduced and is accessible to the remote terminal. Thirdly, a trial data base of information on Air Force STINFO resources has been established. It consists, at present, only of data on each of about 150 identifiable STINFO Officers and STLOs. However, the data base is designed to accommodate many other kinds of resources (libraries, information analysis centers, etc.).

We have discussed with Lt Col Shuping his present capabilities and future plans in order to start looking into the data sharing possibilities.

IV. COSATI Efforts

OAR personnel are involved in several COSATI efforts. COSATI is an acronym for the Committee On Scientific And Technical Information of the Federal Council for Science and Technology under Dr. Hornig, Presidential Science Advisor.

(1) Dr. Harold Wooster, AFOSR, is conducting a survey of user likes and dislikes of microfiche for COSATI. This has been advertised

in the scientific journals, but if any of your people would like to be heard on this subject, ask them to send a letter to Dr. Harold Wooster, AFOSR, 1400 Wilson Boulevard, Arlington, Virginia 22209. Some people feel that we are being pushed into microfiche too fast, and that the users will not really use it to the utmost advantage. It is this kind of feeling that Dr. Wooster is interested in trying to verify or disprove.

(2) Dissemination of Information. I am Chairman of the Task Group to review the dissemination of scientific and technical information throughout the Federal Government. This Task Group started about the time the Freedom of Information Law became effective, and one of our objectives is to examine how the Freedom of Information Law is working. Of course, the other assignment, by far the major one, is to examine how the dissemination of scientific and technical information works in the Federal Government, with the further objective of improving and expediting dissemination of information, and perhaps relieving or eliminating some of the restrictions on its flow. Our Task Group is composed of representatives from the major Government agencies and departments dealing with scientific and technical information. For example, there are representatives from NASA, AEC, DoD, NSF, HEW, State, Transportation, Interior, Commerce, etc.

(3) Mr. Alexander Hoshovsky of OAR is Executive Secretary of the COSATI International Information Activities Panel.

(4) Lt Col Luginbyhl of OAR is the Air Force representative to the COSATI Panel on Management of Information Activities.

V. The Defense Documentation Center

1. Future Plans of DDC. DDC future plans include a new systems

concept for customized services:

- a. Automatic distribution in microform.
- b. Automatic bibliographic lists and indexes in microform.
- c. Automatic distribution of cumulative document indexes.
- d. Automatic distribution of magnetic tape containing information related to documents forwarded on microfilm.
- e. Custom bibliographies from any one of several data banks for interrogation and input transmission of information.

In this connection, the first remote station will be installed shortly in the Pentagon office of the Director of Technical Information. The second will be installed somewhat later at Hq AFSC, and a total of 50 remote stations will be installed throughout the services within two years. Initially, only 1498 work unit data will be provided, but eventual access to the technical documents is also planned. A UNIVAC 1109 Computer is being installed at DDC this summer to further implement this system. For additional information on DDC, see reference 6.

2. Primary Distribution by DDC

Preliminary plans are being made for DDC to take over primary distribution of technical documents. The idea is to submit one camera-ready copy of each technical report prepared either in-house or by the contractor, to DDC with a primary distribution list of addressees attached. DDC would then reproduce this manuscript copy and send microfiche copies to addressees as requested by the author or project monitor. According to DDC this system of primary distribution would

6. Selected Mechanized Scientific and Technical Information Systems, prepared by Herner and Co. for COSATI, April 1968, Superintendent of Documents, GPO, Wash DC.

result in lower costs and a reduction in the time lag now encountered in publication of these technical reports.

The OAR response to this proposed distribution system is less than enthusiastic. As you know, scientists throughout the world communicate with each other largely by forwarding autographed copies of reprints of their articles or copies of their tech reports to their fellow scientist workers in this and other countries. It is feared that the system whereby DDC would forward microfiche copies only to scientists throughout the scientific community would interfere with the informal scientist-to-scientist communication process and depersonalize it. Thus we are somewhat skeptical about the benefits to be obtained in this new system for the scientists. However, there are many of those involved in the publications business today who are strongly enthusiastic about this procedure, especially for the engineer and engineering-type reports. This would relieve many of the AFSC publication shops of their responsibility and the need for reproducing these reports. It would also serve to relieve the present restrictions on number of pages printed in reports, the restrictions established by the Joint Committee on Printing.

VI. User Charges

Effective 1 July 1968 a new procedure was instituted at DDC whereby \$3.00 per copy would be charged for each document ordered. (DDC would continue to provide free copies of microfiche, bibliographies of reports, and all 1498 work unit data.)

We drafted a letter to DoD which was signed by Dr. Flax, Assistant Secretary of the Air Force for R&D, protesting this action on the

following basis:

1. Insufficient notice was provided to allow for orderly budgeting and programming.
2. The state-of-the-art of microfiche reader equipment needs surveying. Possibly a development effort would be required to obtain adequate reader and reader-printer equipment.
3. An extra cost would be involved, especially for contractor personnel, in preparing purchase requests and making arrangements to pay for documents.
4. Might hinder the flow of vital information.

Thus, we requested postponement until the necessary studies and arrangements could be made, but this request was disapproved. The Army and the Navy also requested postponement through their respective secretaries.

So far we have been able to obtain approval for the following exemptions:

1. All APOs
2. Foreign release offices
3. Students at civilian schools, such as AFIT students.

Also documents more than about 3 years old will be excepted because they were originally placed on microfilm rather than microfiche - so hard copies will be furnished free.

A further exception to user charges for documents at DDC was distributed in a message to Air Force users dated 17 July 1968:

In those exceptional cases where emergency situations exist, Air Force users of DDC are authorized to submit DDC Form 1 to

DDC requesting free hard-copy service. Such a request must be accompanied by a letter certifying: (1) There are no funds available locally to purchase documents in hard copy, (2) the document is required in mission accomplishment, (3) microfiche reader-printer equipment is not available, (4) time is of utmost importance to preclude delays in completion of assigned task.

An information copy of the accompanying letter will be furnished to AFDASBA, Hq USAF.

Authority to obtain free hard-copy service under these emergency conditions will terminate 15 October 1968.

The objectives of user charges were stated by DDC as:

1. To encourage use of documents in microfiche form.
2. To reduce the ordering of documents not really needed (e.g., some contractors ordered everything in the DDC store).

Of course, DDC budgetary considerations played a major part in the thinking behind this program. It was suggested by DDC that contractors be encouraged to use the free microfiche service.

As a result, our people have started buying coupons from the Clearinghouse and have also started looking at, and buying, microfiche reader and reader-printer equipment. Microfiche readers can be obtained at prices starting at about \$100, for example, the Atlantic Microfiche Reader. For better equipment, which will receive more continuous usage, the Bell and Howell reader at about \$300 is suggested. Microfiche reader-printers can be obtained for about \$1500 apiece. Both the Minnesota Mining and Manufacturing Company and Eastman Kodak manufacture microfiche reader-printers. The MMM reader-printer is not recommended for classified material because the paper used will not burn nor can it be destroyed by a shredder. DDC has prepared a report which lists the various characteristics of microfiche readers

and reader-printers.⁷ This report can be obtained without charge from DDC. A more recent review of microfiche readers and reader-printers appeared in the June/July issue of the magazine Information and Records Management.⁸ The National Microfilm Association (P.O. Box 386, Annapolis, Maryland) plans to complete a new survey of microfiche reader and reader-printer equipment in December 1968 or January 1969.

The DDR&E letter turning down the request for postponement of user charges included a statement that in case of hardship, DoD would consider granting exemptions on an individual basis where it could be justified. In response to this, Hq USAF indicated that letters requesting exemption should include adequate justification, and should be forwarded to OAR (RRY) for review. Those which have sufficient justification will be forwarded to DoD for consideration.

VII. CONCLUSION

In conclusion, I would like to say that getting scientific and technical information to the user in a timely manner, getting the information where it is needed when it is needed, is a most important function in the over-all RDT&E process. New knowledge, new ideas, new processes, new techniques, all are valueless if left in the mind of the originator, without communicating them to the potential user. Even if documented and reported, they are useless if the reports do not get to the potential user in a timely manner. The Scientific and

7. A Survey of Microfiche Readers and Reader-Printers currently manufactured in the United States, by V. D. Tague and D. R. Wolf, NMA Journal, Vol 1, No. 1, Fall 1967

8. Microfiche Directory, by R. S. Exelbert, Information and Records Management, June/July 1968, pp 39-43.

Technical Information Program seeks to expedite and facilitate this communications process, this flow of technical knowledge to the potential user.

* * *

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Office of Scientific and Technical Information, OAR
1400 Wilson Boulevard
Arlington, Virginia 22209

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11. SPONSORING MILITARY ACTIVITY

Office of Aerospace Research (RRY) USAF
1400 Wilson Boulevard
Arlington, Virginia 22209

This is a report of a briefing presented to the Air Force Systems Command Technical Management Council at Kirtland AFB, NMex on 25 July 1968. It concentrates on the Scientific and Technical Information Program at the Hq USAF and Hq OAR levels, as well as portions of the AFSC program, but does not attempt to give comprehensive coverage of the over-all Air Force program. Discussed are the objectives of the program and the responsibilities of the Air Force Focal Point, assigned to OAR in July 1967, as follows: Represent the USAF at DDR&E Focal Point Meetings; improve the availability and expedite the dissemination of scientific and technical information; review and revise Air Force regulations as needed, and maintain an inventory of scientific and technical information activities, facilities, and personnel. Discussed are various experimental studies being conducted by OAR: SCAN (Selected Current Aerospace Notices), CAST (Clearinghouse Announcements of Science and Technology), Tech Barriers Documentation Study, and the Time-Shared Computer Study. Also briefly listed are some of the COSATI (Committee On Scientific And Technical Information, Federal Council for Science and Technology) activities of OAR. The Defense Documentation Center (DDC) plans for the future are explained, including primary distribution of publications and remote access to the DDC data store. Finally, the latest information on DDC user charges is presented.

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14 KEY WORDS	LINK A		LINK B		LINK C	
	ROLE	WT	ROLE	WT	ROLE	WT
Management AFSC Tech Management Council Scientific Information Computer Systems Computer Time-Sharing Technical Information COSATI (Committee On Scientific And Technical Information) Air Force Focal Point Responsibility Dissemination of Information Inventory of Information Activities Selective Dissemination of Information Current Awareness Defense Documentation Center (DDC) User Charges for Information Technical Libraries Documentation Information Sciences Computer Sciences Cost-Effective Dissemination Methods Microfiche						

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DEPARTMENT OF THE AIR FORCE
HEADQUARTERS OFFICE OF AEROSPACE RESEARCH
ARLINGTON, VIRGINIA 22209



12 NOV 1968

REPLY TO
ATTN OF:

RRY

SUBJECT:

Correction to Document AD 675 533

TO:

DDC

1. Enclosed is a statement to provide complete and correct information on the MAM reader printer for addition to the above document.

2. Please add this statement to each copy of the report, or microfiche, that is distributed.

FOR THE COMMANDER

C. S. Downie
CURRIE S. DOWNIE, Colonel USAF
Director
Office of Scientific & Technical
Information

1 Atch a/s

DDC
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NOV 19 1968
B

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RESEARCH - THE KEY TO AEROSPACE SUPERIORITY

CORRECTION

"Highlights of the Air Force Scientific & Technical Information Program"
July 1968, AD 675 633

Please note that in connection with the statement on page 23 about the MPM reader printer, MPM has indicated that there are several different types of paper available for reproduction with this machine. MPM #761 and 769 paper both contain a layer of aluminum sheeting and therefore cannot be shredded. The two outside laminated sheets will burn but with some reluctance. MPM #764 and 768 paper, on the other hand, can either be shredded or destroyed easily by fire. Therefore, in reproducing classified material, be careful to insure that paper No. 764 or 768 is utilized in order to facilitate destruction at some future date.